Our ERP Program...

... the ERP program at Missouri S&T has prepared me extremely well for my life at Accenture. The consultants and teachers... thought I was an experienced hire with extensive experience in ERP and consulting. I’m thankful for you and the other...

ERP 2110: Introduction to Enterprise Resource Planning (ERP)
Prerequisite: IST 1750
Fundamentals of enterprise resource planning (ERP) systems concepts, and the importance of integrated information systems in an organization. The focus of this course is on illustrating procurement, production, and sales business processes using ERP software. Use of SAP’s ERP Business Suite as an example ERP system.

ERP 4110: ERP Systems in Health Care Industry
Prerequisite: IST 1750
Specialization of ERP systems and concepts to the field of Health Care, with special emphasis on Business Process Integration in this environment.

ERP 4220: Introduction to Enterprise Decision Dashboards
Prerequisite: IST 1750
Study design and implementation principles for enterprise decision dashboards utilizing data warehouse and databases to support visual analytics. SAP Predictive Analytics/Lumira, HANA Cloud Platform (HCP), HANA Studio, Fiori, IBM Watson Analytics, SAS Visual Analytics, or similar tools are used for practical assignments.

ERP/IST 4444: Introduction to Data Warehouse
Prerequisite: IST 3423 or equivalent relational database experience
This course presents the topic of data warehouses and the value to the organization. It takes the student from the database platform to structuring a data warehouse environment. Focus is placed on simplicity and addressing the user community needs.

ERP 4610: Customer Relationship Management in ERP Environment
Prerequisite: ERP 2110 or preceded or accompanied by ERP 5110
The course emphasizes identification (targeting), acquisition, retention, and development (expansion) of (profitable) customers, as well as effective and efficient management of customers, using information technology. SAP CRM and SAS Enterprise Miner are used.

Prerequisites: IST 1750
This course provides a technical overview of Enterprise Resource Planning Systems and their impact on organizations. SAP’s ERP system is introduced to illustrate the concepts, fundamentals, framework, general information technology context, the technological infrastructure, and integration of business enterprise-wide applications.

ERP 5130: ERP Enterprise Resource Planning in Small and Mid-size Enterprises
Prerequisite: (BUS1210 AND ERP2110) or ERP5110
The course provides an overview of enterprise applications for small and midsize companies. The course provides an overview of the new generation of business application for small and midsize companies. Microsoft Dynamics AX 2012 is used to introduce the enterprise-wide application.

ERP 5210: Performance Dashboards, Scorecard, Data Visualization
Prerequisite: ERP 2110 or preceded or accompanied by ERP 5110
This course studies different performance management systems including dashboards, management cockpit, scorecards, and strategy maps in an organization. SAP’s BW, Predictive Analytics/Lumira, and Design Studio, Tableau, and IBM Watson Analytics are used to develop the dashboard applications.

ERP 5410: Use of Business Intelligence
Prerequisites: IST 3423 or equivalent
This course introduces data-oriented techniques for business intelligence. Topics include Business Intelligence architecture, Business Analytics, and Enterprise Reporting. SAP Business Information Warehouse, BusinessObjects, or similar tools will be used to access and present data, generate reports, and perform analysis.

ERP 6120: Enterprise Resource Planning (ERP) Systems Configuration and Integration
Prerequisite: ERP 5110
Implementation and design practices for business processes in Enterprise Resource Planning (ERP) systems. The course will examine and apply techniques used in SAP ERP and S/4 HANA system for system configuration and integration, with a focus on Financial Accounting, logistics, Controlling, and production.

ERP 6220: Data Modeling & Visualization Prototyping for Enterprise Decision Dashboards
Prerequisite: ERP 5110 and one of ERP 5410, ERP 6444 or IS&T 6444
Study how to integrate data modeling and visualization prototyping in design and implementation of enterprise decision dashboards for descriptive, predictive, and prescriptive analytics. Assignments and project implementations use SAP HANA Studio, HANA Cloud Platform (HCP), Web IDE, Design Studio, IBM Watson, and SAS Visual Analytics. Semester project prepared.

ERP 6444: Essentials of Data Warehouses
Prerequisite: IST 3423 or Comp Sci 304 or equivalent relational database experience
This course presents the topic of data warehouses and the value to the organization. It takes the student from the database platform to structuring a data warehouse environment. Focus is placed on simplicity and addressing the user community needs.

ERP 6610: Advanced Customer Relationship Management
Prerequisite: ERP 2110 or preceded or accompanied by ERP 5110
Identification (targeting), acquisition, retention, and development (expansion) of (profitable) customers. Effective and efficient management of customers, using IT. SAP CRM and SAS Enterprise Miner used. Research paper and presentation required.
## Joint Industry Certificate Undergraduate Students Curriculum

### Course Focus Options
- ERP (3 course options)
- SAP (3 course options)

### Course Schedule
- ERP: Spring, Summer, Fall
- SAP: Spring, Summer, Fall

### Course Supplement Software/SAP Modules Mappings

<table>
<thead>
<tr>
<th>ERP Course</th>
<th>Course Title</th>
<th>Course Supplement Software/SAP Modules Mappings</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERP 2110</td>
<td>Intro to ERP</td>
<td>SAP ECC: FI, MM, SD, PP, CO, HR/HCM</td>
</tr>
<tr>
<td>ERP 4110</td>
<td>ERP Systems in Health Care Industry</td>
<td>MedTech, OpenVita, etc.</td>
</tr>
<tr>
<td>ERP 4220</td>
<td>Introduction to Enterprise Decision Board Prototyping</td>
<td>SAP S/4 HANA, SAP HANA Studio, IWS Cloud Platform (HCP), SAP Web IDE (Port), Predictive Analytics/Lumira, SAP Design Studio, SAP Visual Analytics &amp; Statistics, IBM Watson Analytics</td>
</tr>
<tr>
<td>ERP 4610</td>
<td>Customer Relationship Management</td>
<td>SAP CRM: Marketing Campaign Mgmt, SAP &amp; Opportunity Mgmt, Service &amp; Interaction edition, XSR Analytics, CRM Reporting, SAS Enterprise Miner</td>
</tr>
<tr>
<td>ERP 5110</td>
<td>ERP Design &amp; Implementation</td>
<td>SAP ECC: FI, MM, SD, PP, CO, HR/HCM</td>
</tr>
<tr>
<td>ERP 5120</td>
<td>ERP in Small- and Medium Enterprise</td>
<td>Microsoft Dynamics, Power BI, CRM</td>
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<tr>
<td>ERP 5240</td>
<td>Enterprise Application Development and Security</td>
<td>SAP Design Studio, HANA Cloud Platform, and SAP UID</td>
</tr>
<tr>
<td>ERP 5410</td>
<td>Use of Business Intelligence</td>
<td>SAP BI/UI: Data Warehouse, BI queries, InfoCube, SAP HANA: BusinessObjects Predictive Analytics/Lumira &amp; R, Web Intelligence, Business Explorer</td>
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<tr>
<td>ERP 5510</td>
<td>Enterprise System Administration and Cybersecurity Design</td>
<td>SAP BASIS, Solution Manager</td>
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<tr>
<td>ERP 6120</td>
<td>ERP System Configuration</td>
<td>SAP ECC &amp; S/4 HANA Configuration: FI, MM, SD, PP, CD</td>
</tr>
<tr>
<td>ERP 6220</td>
<td>Data Modeling &amp; Visualization Prototyping for Enterprise Decision Dashboards</td>
<td>SAP HANA Studio (data modeling, processing, end, etc.), Predictive Analytics/Lumira, HCP Cloud Platform (HCP), SAP Designer Studio, SAP Visual Analytics &amp; Visual Statistics, IBM Watson Analytics, SAP Web IDE, SAP S/4 HANA</td>
</tr>
<tr>
<td>IST 1750</td>
<td>Introduction to MIS</td>
<td>SAP ECC Overview</td>
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<tr>
<td>IST 6443</td>
<td>Information Retrieval &amp; Analysis</td>
<td>SAS Enterprise Miner, SAS Text Miner, SAS Predictive Analytics (Social Network Analysis)</td>
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<tr>
<td>BUS 1210</td>
<td>Financial Accounting</td>
<td>SAP FI</td>
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</tbody>
</table>

### Required Certificate/Minor Courses
- ERP or BI Graduate Certificate has two required courses and two elective courses; Digital Supply Chain Minor has 3 required courses and one elective course.

### Note 1:
Choose ONE course from this group.

### Note 2:
Choose ONE course from this group.

### Note 3:
Choose ONE course from this group.

### Note 4:
Choose AT LEAST ONE from this group.

### Business & IST Courses
- BUS 360: Business Operations
- BUS 4245: Supply Chain and Project Mgmt

### ME & Emgt Courses
- Emgt 2211: Engineering Accounting and Finance
- Emgt 3131: Operations and Production Mgmt.
- Emgt 3144: Supply Chain Management
- Emgt 3750: Product Design and Optimization
- Emgt 3751: Production Planning And Scheduling
- ME 5655: Design for Manufacturing
- ME 5755: Integrated Product and Process Design
- ME 5756: Probabilistic Engineering Design
- ME 5763: Principles and Practice of Computer Aided Design

### Statistical Courses
- STAT 260: Statistical Data Analysis using SAS
- STAT 5356: Regression Analysis
- STAT 5357: Statistical Data Analysis

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